
CHAPTER 2

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

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2.1 INTRODUCTION

This chapter of the Mats Mats Quarry Final Environmental Impact Statement (EIS) presents a general description of existing site conditions, highlights the key features of proposed future operations, and describes the *Proposed Action* and alternatives. Further description of existing site conditions can be found in Chapter 3 of this document. Analysis for key elements of the environment (including Water, Air, Plants and Animals, Noise, Land Use and Transportation) is presented in Chapter 3 of this Final EIS.

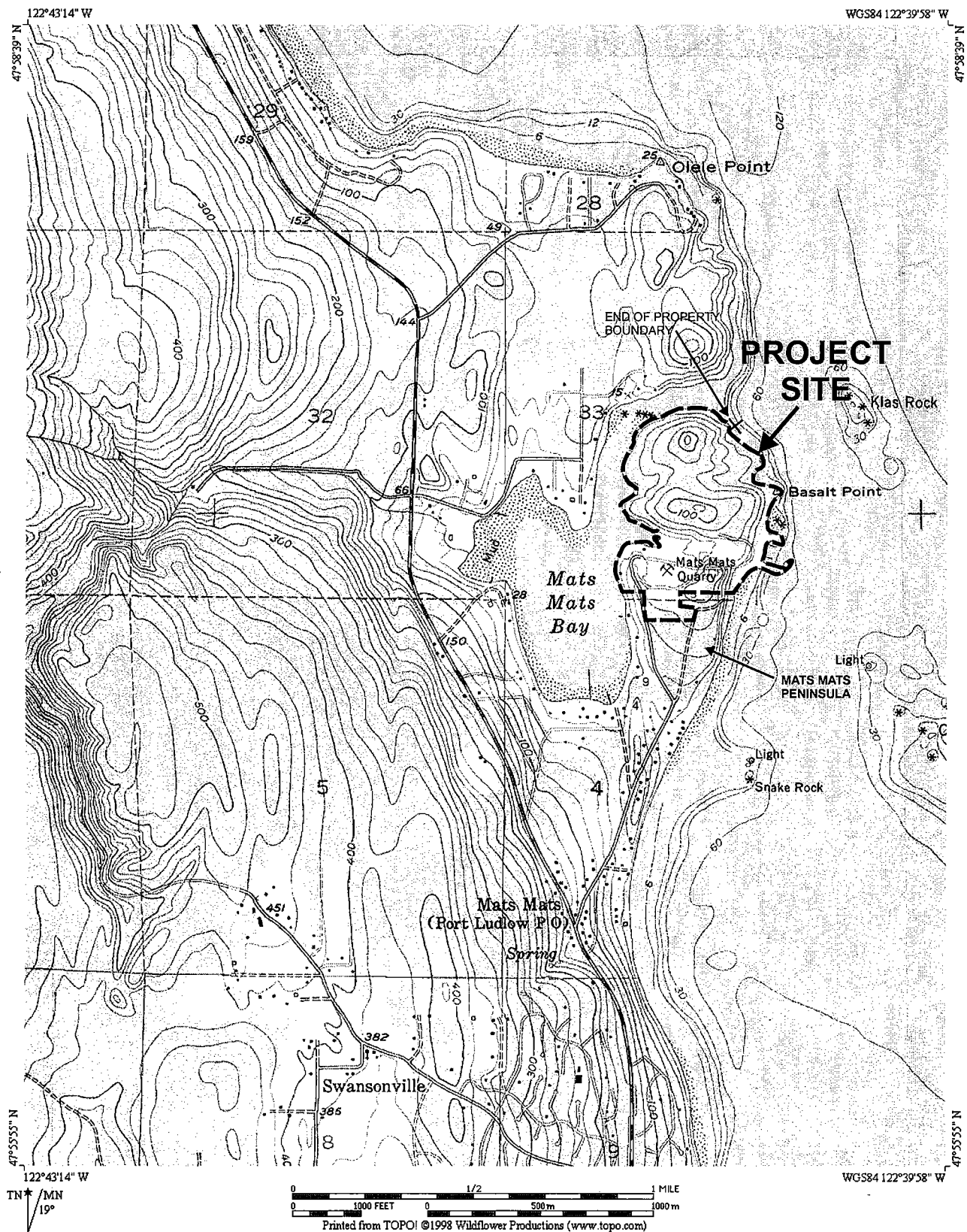
2.2 OPERATOR AND LOCATION

The existing quarry at Mats Mats Bay is operated by Glacier Northwest, Inc., with offices at 5975 E. Marginal Way South in Seattle. The roughly 117-acre site is addressed as 360 Quarry Road, Port Ludlow, Washington 98365. The site is located in Section 33, Township 29N, Range 1E, along the southeastern shore of Mats Mats Bay of Admiralty Inlet in Jefferson County (see Figure 2-1).

2.3 HISTORICAL MINING ACTIVITY

Basalt quarry mining has been conducted on the site since 1934. The original owner of the site and operator of the quarry was Fletcher Construction (also known as General Construction Company). Fletcher Construction sold the site and quarry operation to Glacier Northwest in July 1995.

Historic quarry activity involved mining of rock and included blasting, crushing and export of materials by truck and barge. Barge loading and unloading is conducted at two docks and ramps located adjacent to tidelands leased from the State Department of Natural Resources at the eastern edge of the site, along Admiralty Inlet. The unloading of barged reclamation soil, as well as placement of soil on mined areas, has also occurred historically at the site. Since 1995, a total of 64 barge deliveries of clean soil for reclamation were made to the site. The largest number of deliveries were made during 1995, with 24 barge deliveries of reclamation soil. Approximately 12 acres in the southern portion of the site has been reclaimed. In recent years, barging, extraction, and stock-piling have generally occurred between the hours of 7:00 a.m. and 7:00 p.m. On limited occasions, barging has occurred after 7:00 p.m. In addition to mineral extraction, mineral processing activities are also currently conducted on the site. These activities include the sorting and crushing of hard rock. Processing facilities currently include a primary crusher, one portable crushing plant, and one grizzly screen.



Source: Associated Earth Sciences, Inc., 2002

 <p>HWA</p>	<p>Mats Mats Quarry Final Environmental Impact Statement</p>	<p>Figure 2-1</p>
		<p>Vicinity Map</p>

2.4 SITE CHARACTERISTICS

Geology

The site contains submarine basaltic formations that contain approximately 8 to 9 million tons of minable resource.

Topography

Site topography is generally defined by historic mining activities. The interior portion of the site contains varied topography, including quarry pits and un-mined ridges. Elevations in the interior portion of the site range from approximately 110 feet above mean lower low water elevation (MLLW) to approximately 13 feet below MLLW. From the interior of the site, topography generally slopes down to the shorelines of Mats Mats Bay and Admiralty Inlet. The tallest shoreline slope, located along the northern edge of the site, is approximately 100 feet in height. Shoreline topography in the vicinity of the barge loading area along the eastern edge of the site slopes gently to the west and toward the interior of the site. See Figure 2-2 for site contours.

Vegetation

The two lots at the southern end of the site (Government Lots 6 and 7 of Block 3 of the Basalt Beach Plat, comprising approximately nine acres) were previously mined and reclaimed by General Construction. In addition, approximately 61 acres of the 117-acre site have been cleared of vegetation and are currently bare. The majority of the existing vegetation on the site is located within an approximately 200 to 240 foot wide buffer along the shoreline. The dominant vegetation community on the site (approximately 29 acres) is mixed red alder/western red cedar/Douglas-fir forest. Deciduous forests dominated by red alder cover approximately 9.5 acres, and grass and shrub communities cover approximately 21 acres of the site.

Land Use Designations and Zoning

The site is designated as a Mineral Resource Area under the Jefferson County Comprehensive Plan, adopted in August 1998. This designation indicates that the site contains mineral resources of long-term commercial significance, and mining activities such as the extraction of hard rock is a permitted use on the site. New mineral processing facilities are considered a conditional use. However, the proposal does not include any new mineral processing facilities. See the discussion on section 3.6.3 of the Unified Development Code in the *Land Use* section of Chapter 3.

The site currently carries an underlying zoning designation of RR-5, primarily allowing rural residential development at a maximum of 1 dwelling unit per five acres.

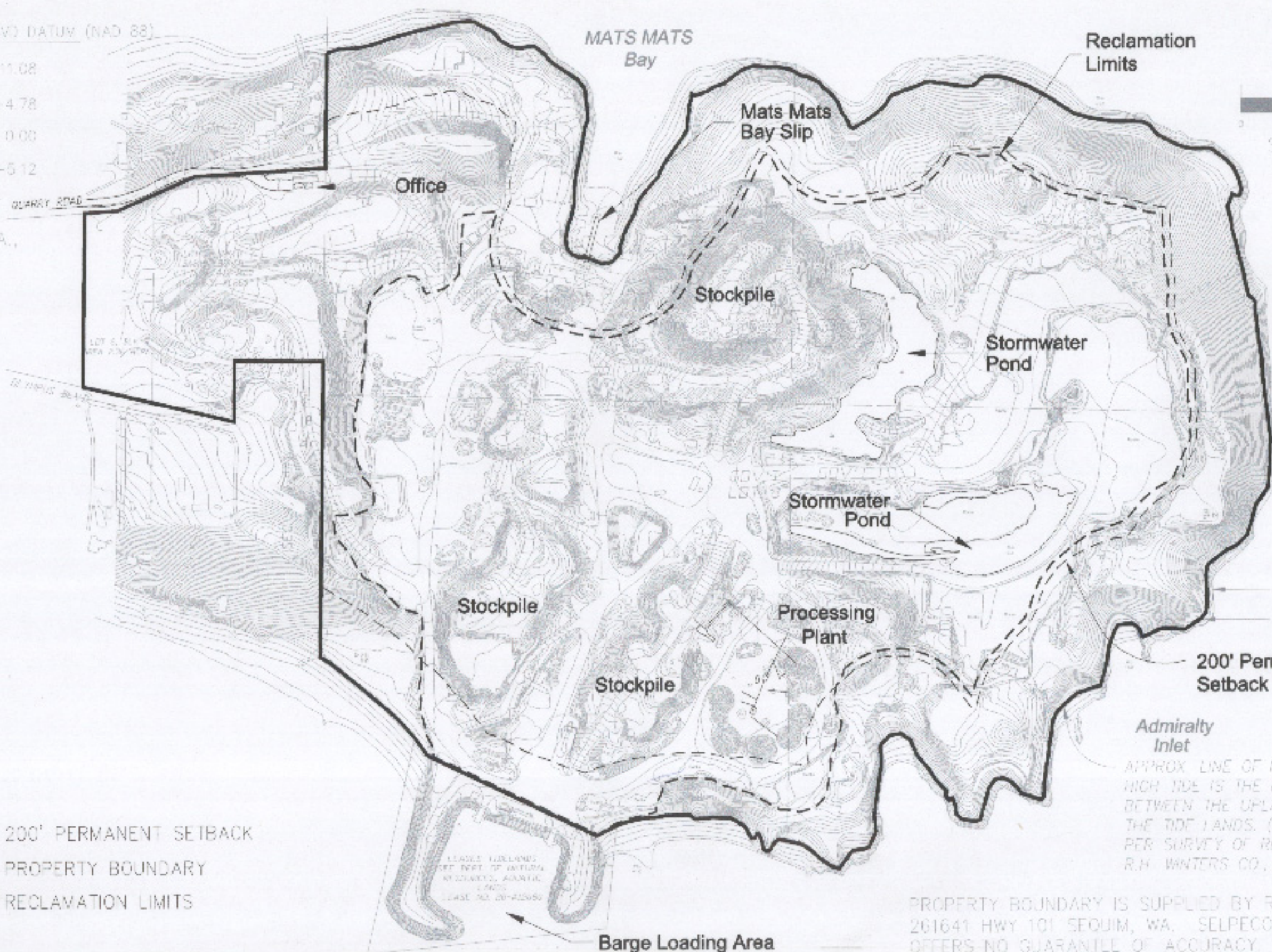
MLLW DATUM | NGVD DATUM (NAD 88)

BENCHMARK +16.20'	+11.08
MHHW +9.90'	+4.78
-5.12'	0.00
MLLW 0.00'	-5.12

TIDAL DATUM PLANE
PER U.S. ENGINEER
OFFICE, SEATTLE, WA.,
FILE TD-54
M.S.L. 1929 CA
PORT LUDLOW, WA



0 100 200 300
SCALE: 1"=300'



LEGEND

- 200' PERMANENT SETBACK
- PROPERTY BOUNDARY
- - - - - RECLAMATION LIMITS

PROPERTY BOUNDARY IS SUPPLIED BY R.H. WINTERS CO., INC.
261641 HWY 101 SEQUIM, WA. SELPECO RESOURCES INC.
OFFERS NO GUARANTEE OF ACCURACY.

Huckell/Weinman

Associates, Inc.

HWA

Mats Mats Quarry Final Environmental Impact Statement

Figure 2-2

Existing Conditions Map

Area Character

The land use character of the Mats Mats Bay vicinity can generally be characterized as rural residential with interspersed tracts of undeveloped second and third growth forest.

Land uses in the immediate site vicinity include large lot (rural) residential, small farms and undeveloped parcels. To the immediate south are rural residential uses along the eastern shore of Mats Mats Bay and along the shore of Admiralty Inlet. To the immediate west is Mats Mats Bay and the Mats Mats Bay Channel. Further to the west, across the bay and channel, are rural residences and undeveloped parcels. To the immediate north is the Mats Mats Bay Channel. Further to the north, across the channel, are rural residential uses. To the east and northeast is Admiralty Inlet.

Site Access and Utilities

Direct access to the site is via a driveway off Quarry Road, near its terminus. Quarry Road, a two-lane road, extends from its intersection with Olympus Boulevard to its terminus at a private driveway, immediately northeast of the quarry gate. Olympus Boulevard provides the connection between Quarry Road and Oak Bay Road, which is the main roadway serving the area. Oak Bay Road connects Paradise Bay and Port Ludlow with Mats Mats and Port Hadlock.

2.5 DESCRIPTION OF OPERATIONS

The proposal is an update of the existing Department of Natural Resources (DNR) Surface Mining Reclamation Permit (#70-010170). The update to the permit is required to: 1) transfer the permit from Fletcher General (also known as General Construction) to Glacier Northwest; 2) meet the standards of Washington's Surface Mining Act, as amended in 1993; and 3) reflect the continuation of hard rock mining to an increased depth of 60 feet below mean lower-low water level (MLLW) and related importation of clean soil by barge for reclamation. The operator will continue current mining, reclamation and barge transportation activities until approximately 2025. The mining rate would continue to fluctuate with market conditions, as it has historically.

As currently permitted, mining would include two primary components: 1) Mining Operation; and, 2) Reclamation.

Phased Mining Operations. Approximately 61 acres of the 117-acre site would be mined in phases or used for processing. The approximately 61 acres proposed for mining and processing plant area has previously been cleared of vegetation and top soil in association with permitted mining activities. No mining activity would occur within approximately 220 feet of the shoreline. (As indicated in Figure 2-2, the 220 foot setback reflects a 200-foot shoreline setback, plus a 20-foot access setback.)

The proposal would continue mining rock resources in a manner consistent with current and past practices. Rock mined from the site is currently used for a variety of products, including riprap, landscaping rock, and roadway base. As under current practices, operations would provide rock products for the regional market (Puget Sound region, British Columbia and Alaska) and the local market (Jefferson, Clallam and Kitsap Counties). Approximately 400,000 to 1,000,000 tons of rock have been mined from the site on an annual basis since 1995. As under current conditions, actual mining rates would be based on market conditions. Anticipated

annual mining would be approximately 600,000 tons; of this total, approximately 80 percent would be of sufficient quality for sale (transport off the site) and approximately 20 percent would be considered unmarketable and would be stockpiled on the site for future use during reclamation. The anticipated amount of rock transported from the site would be approximately 480,000 tons annually; sales will depend on market conditions. Based on past practices, it is anticipated that approximately 90 percent of the rock that is suitable for sale would be transported to the regional market via barge and approximately 10 percent of the rock would be transported to the local market via truck. The total amount of rock resource remaining on the site is estimated to be approximately 8 to 9 million tons. Assuming an annual extraction rate of approximately 500,000 tons, the life of the mine would be approximately 16 to 18 years; mining activities would continue until approximately 2023.

Rock is mined by drilling a series of holes into rock face benches and loading the holes with explosives and stem (material, usually crushed rock, placed in the blast hole to contain blast energy). Holes are fired using non-electric delays which allow blast holes to detonate sequentially at intervals of a few milliseconds (thousands of a second). Blasting currently averages one to two blasts per week with a maximum of three blasts per week. As under current operations, the number of blasts under the proposal would not exceed three per week. The rock loosened by the blasting is removed from the bench by hydraulic shovel and transported by truck to processing facilities located on the site.

Mining operations would be phased. In general, proposed mining would occur in a series of segments radiating from a central point (conceptually, the mining plan would resemble spokes of a wheel). The central area would initially be mined to 0 feet MLLW, and would contain stormwater and processing facilities. On-site roadways would also access this central area. Mining activity would be limited to one segment at a time, with individual mining segments radiating out from the central area. The individual segments would initially be mined to approximately 30 feet below MLLW from the central area out to the edge of the quarry boundary (mine wall). Upon completion of mining to 30 feet below MLLW, mining in the segment would return to the central point and begin mining to 60 feet below MLLW. Upon completion of mining to 60 feet below MLLW out to the quarry wall, backfill for reclamation would begin at the quarry wall and proceed back to the central area. This general mining scenario would repeat for each mining segment. It is anticipated that the northern portion of the quarry would be mined first, with the southern portion of the quarry being the last area mined. Mining in this fashion allows stormwater facilities, processing equipment, and on-site transportation facilities to be clustered in the center of the site, thus limiting the potential for impacts to surrounding areas. Reclamation, discussed below, would also be phased.

Processing. The current and proposed processing and support facilities on the site is illustrated on Figure 2-2 and described below:

- *Crushers.* The site contains one primary crusher (jaw crushers) and one portable secondary plant with two crushers. The first primary crusher is located in the middle western portion of the site and includes a screen which sifts mined material into three different piles (depending on size) after crushing. The second primary crusher is located near the middle of the site. The two primary crushers handle approximately 90 percent of the primary crushing.

The secondary portable plant contains two crushers and one screen and is located near the center of the site. The portable plant further reduces material size.

- *Grizzly Screen.* In addition to the primary crushers and screen, the site includes a stand-alone “grizzly screen”, which sorts materials that do not require primary crushing or secondary crushing and screening.
- *Trucks and Loaders.* The site contains 7 trucks and 2 front loaders that transport material from the quarry to the processing areas and from the processing areas to the barge loading area.
- *Barge Loading.* Barges would continue to be loaded at two ramps located at the eastern edge of the site, along Admiralty Inlet. Material stockpiled at the processing areas would continue to be loaded onto trucks by front loaders and transported to the barge loading area. The barges are loaded directly by the trucks (there is no barge conveyor system). Because jetties are located on two sides of the barge loading area and barge maneuverability is limited, use of the loading area is limited to 4,000 ton barges. The maximum barge loading/unloading capacity of the site is four barges per day.
- *Barge Unloading.* Barges carrying imported clean soil for reclamation would continue to be unloaded at the eastern edge of the site, along Admiralty Inlet. Reclamation material would be unloaded by wheel loaders, loaded onto trucks, and either stockpiled or unloaded directly in the area being reclaimed. It is anticipated that the annual number of barge trips for importation of reclamation material would range from 0 in phase one to a total of approximately 427 in phase five. Because of the maneuverability limitations created by the jetties adjacent to the docks, the maximum barge loading/unloading capacity of the site is four 4,000-ton barges per day. (Please note that a 4,000-ton barge contains approximately 2,693 cubic yards¹)

Operating hours at the site are regulated by the Jefferson County Unified Development Code (UDC). Under the UDC, extraction and reclamation activities must take place between 7 a.m. to 7 p.m., Monday through Friday. As under current conditions, barging could occasionally be conducted on a 24-hour basis, depending on market and tidal conditions. (Jefferson County has indicated that quarry operators must continue to obtain prior approval from the UDC Administrator for each and every instance of operations, including barge loading and unloading, outside the normal operation hours, regardless of frequency.) Under normal conditions trucks are not loaded after 4:00 p.m., but loading may be conducted up to 6:00 p.m. under special cases based on market conditions. Only on rare conditions would truck loading occur after 6:00 p.m. Blasting would be limited to the hours of 10:00 a.m. to 4:00 p.m., Monday through Friday. As under current operations, the number of blasts under the proposal would not exceed three per week.

No new permanent structures are proposed. Existing structures on the site are illustrated on Figure 2-2 and include: an administrative office/weigh station; maintenance shop; four motor control centers (ranging in size from 100 to 160 square feet in size); three explosive magazines (buildings containing explosive materials); barge docks and jetties; and several small sheds storing various materials.

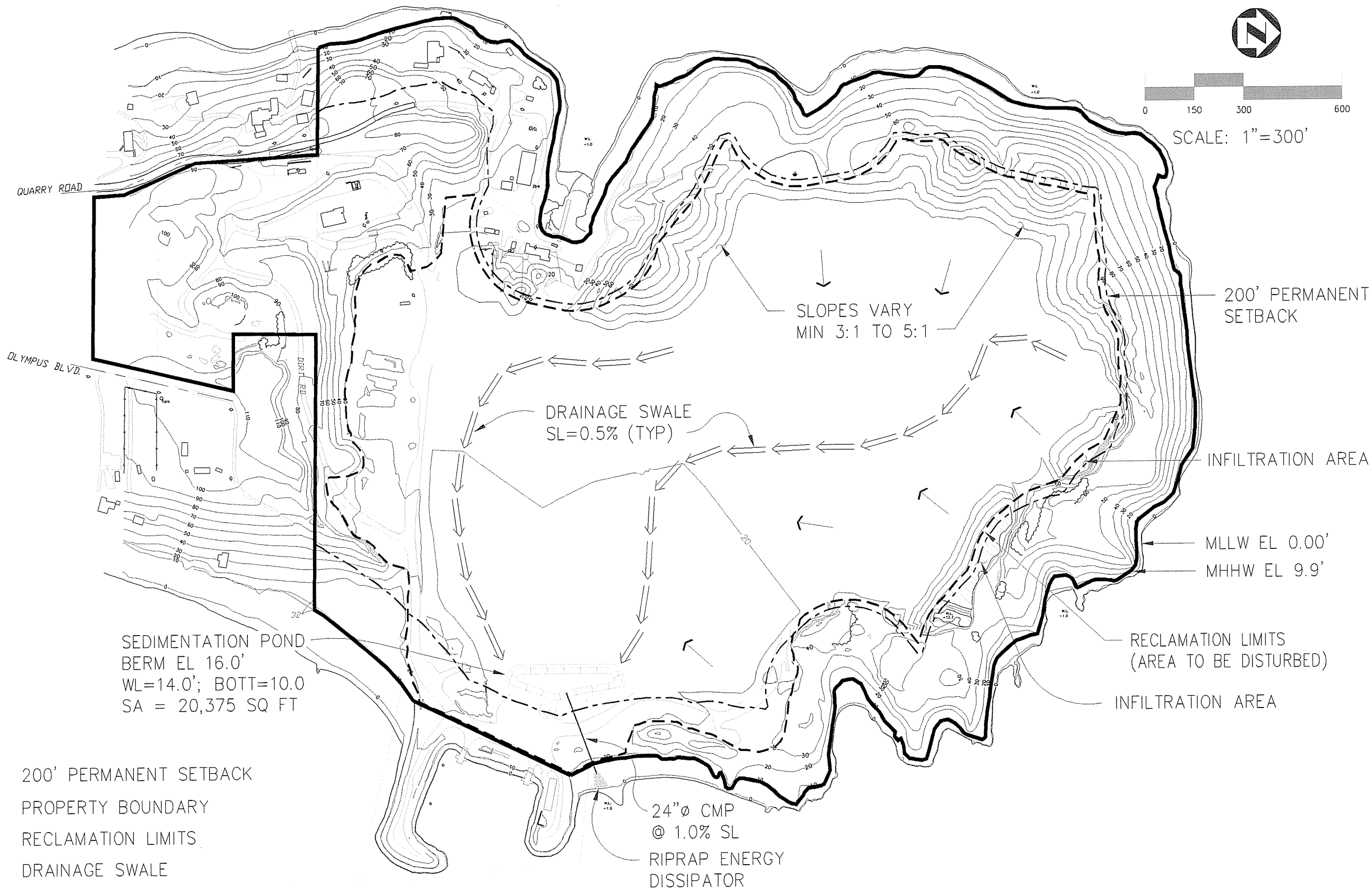
¹ One cubic yard of soil weighs approximately 1.35 tons.

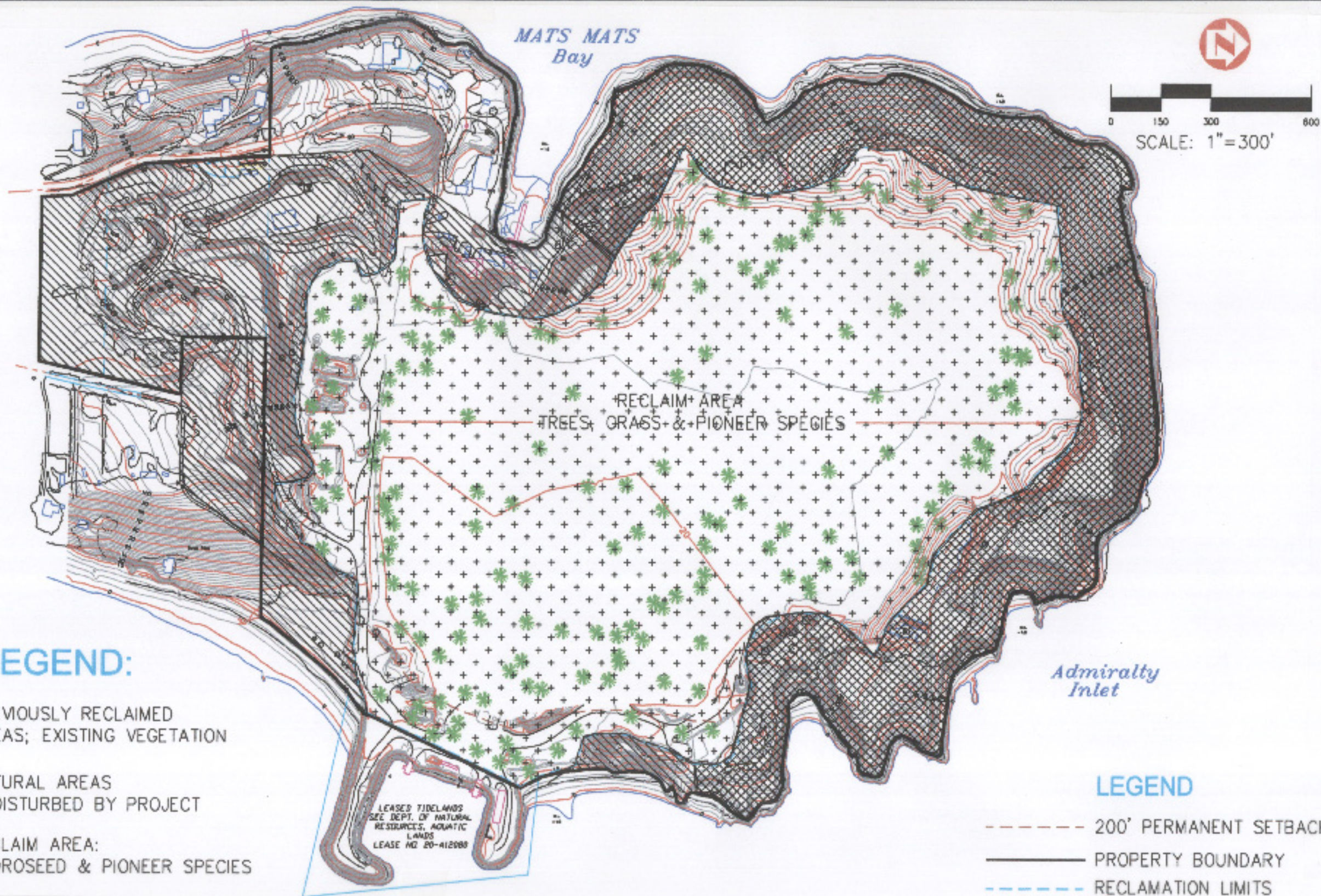
As under current practices, all stormwater runoff from the developed portions of the site (i.e. area in active mining or mining support facilities) would be directed to stormwater ponds for water quality treatment prior to discharge to Mats Mats Bay at two outfalls along the western edge of the site. All stormwater flowing from the site would be discharged consistent with the conditions of the NPDES/Stormwater Discharge Permit issued for the site by the Department of Ecology (Permit WAG-50-1286). The NPDES/Stormwater Discharge Permit establishes limits for the quality of the water discharging from the site. To adhere to the water quality standards of the NPDES/Stormwater Discharge Permit, stormwater runoff from the site would be controlled by the elements of the Stormwater Pollution Prevention Plan, Erosion and Sediment Control Plan, and Stormwater and Process Water Monitoring Plan established for the quarry operation.

Reclamation. Site reclamation would be accomplished in discrete segments as mining reserves are depleted in a given area. This phased approach allows revegetation to be initiated at the earliest time practical. Consistent with Washington Department of Natural Resources requirements, site reclamation for the proposal would be accomplished in the following four steps: 1) Post-mining site preparation, including use of imported clean soil and on-site overburden material; 2) Slope stabilization and erosion control, including stormwater control and temporary erosion control measures such as hydroseeding and filter fence check dams; 3) Final Contouring and topsoil placement; and 4) Revegetation with grasses, shrubs, and trees. Reclamation activities would begin after completion of mining within each segment, and would be complete within two years of initiation of reclamation. All concrete stockpiles would be removed from the site prior to completion of reclamation. It is anticipated that reclamation would be completed by approximately 2025. See Figure 2-3 for the Final Site Contours Map and Figure 2-4 for the Reclamation Plan.

The proposed reclamation plan includes continuous filling to establish the topography necessary for final reclamation. It is anticipated that approximately 7.3 million cubic yards of additional material would be required to establish a final floor elevation ranging from approximately 20 feet to 30 feet above the mean lower-low sea water elevation (MLLW). The fill would be obtained from non-salable mined material (approximately 20 percent of the material mined) and imported clean soil. Clean soil would be obtained locally or would be shipped to the site from sources accessible by barge (it is anticipated that most or all imported clean soil would be shipped to the site via barge). Approximately 140,000 cubic yards of clean soil has been imported to the site and stockpiled for reclamation. It is estimated that non-salable mined material would produce 2.5 million cubic yards of backfill. Additional clean soil imported from outside sources (estimated to be approximately 4.8 million cubic yards) would be utilized to establish the final floor. Glacier Northwest follows a Clean Soil Acceptance Policy to define the type of soil acceptable for import (Appendix VI). If sufficient quantities of imported clean soils were not available from other sources, soils would be barged to the site from existing Glacier Northwest mining operations.

It is anticipated that the amount of material imported for reclamation would average approximately 800,000 cubic yards per phase, with a low of 0 cubic yards imported in phase one to a high of approximately 1,150,000 cubic yards in phase five. Actual distribution of off-site reclamation materials among phases is subject to changes in market conditions. Appendix VII provides a table listing reclamation fill quantities from on-site non-salable mined material and from clean soil imported to the site by phase.





Source: Selpeco Resources, Inc.

After final reclamation grading, top soil would be placed at depths of two to six inches on future buildable portions of the site and six to twenty-four inches on future non-buildable areas. Areas not planned for future roadway corridors would not receive any topsoil replacement.

Surface water management on the reclaimed site would be handled through a series of grass-lined water quality swales directing runoff to a sedimentation pond in the southeastern portion of the site. From the pond, stormwater would be directed, either through a pipe or via overland conveyance, to Puget Sound. If a pipe were to be used to convey stormwater to Puget Sound, a secondary discharge to Puget Sound would be designed/constructed to direct water in the event of pipe blockage.

Upon completion of mining and reclamation activities, the site could be developed consistent with the RR-5 zoning designation (one dwelling unit per five acres). Under the existing zoning, a maximum of 23 residential units could be developed on the site. Residential development proposed subsequent to site reclamation would be subject to separate environmental review.

2.6 ALTERNATIVES

Two alternatives to the proposal are analyzed in the EIS. The alternatives include a *No Action Alternative* and a *Limited Mining Alternative*, which are described below.

No Action – Under the *No Action Alternative*, the transfer and update of the reclamation permit would occur as under the *Proposed Action*. However, mining activities would continue until reserves to a depth of 0 MLLW are depleted. Assuming annual sales of approximately 500,000 tons, mining would end in approximately 2005 and site reclamation would be completed by approximately 2007. The Comprehensive Plan and underlying zoning designations would control future development of the reclaimed site. The site currently carries an underlying zoning designation of RR-5, primarily allowing rural residential development at a maximum of 1 dwelling unit per five acres. Residential development could be initiated on the site by approximately 2007.

Limited Mining – Under the *Limited Mining Alternative*, the transfer and update of the reclamation permit would occur as under the Proposal. However, this alternative would entail an increased mining depth of 30 feet below mean lower-low water level (MLLW) compared to 60 feet below MLLW under the Proposal. Mining activities under this alternative would remove less material (approximately 4 million tons compared to approximately 8 million tons under the *Proposed Action*) and occur over a shorter period of time than under the Proposal. It is anticipated that mining would continue for approximately 8 to 10 years, assuming annual sales of 500,000, and mining activities would continue until approximately 2013 with reclamation completed by approximately 2015. Residential development could be initiated on the site by approximately 2015.